



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,586	11/28/2003	Christopher M. Bishop	305414.01	9877
22971	7590	02/02/2009	EXAMINER	
MICROSOFT CORPORATION			SILVER, DAVID	
ONE MICROSOFT WAY				
REDMOND, WA 98052-6399			ART UNIT	PAPER NUMBER
			2128	
			NOTIFICATION DATE	DELIVERY MODE
			02/02/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

roks@microsoft.com
ntovar@microsoft.com

Office Action Summary	Application No.	Applicant(s)	
	10/724,586	BISHOP ET AL.	
	Examiner	Art Unit	
	DAVID SILVER	2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 18 December 2008.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-6,8-12,14-19,21-31,33-44,46-55,57-65 and 67-71 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-6,8-12,14-19,21-31,33-44,46-55,57-65 and 67-71 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) Notice of Informal Patent Application

6) Other: _____.

DETAILED ACTION

1. Claims 1-6 8-12 14-19 21-31 33-44 46-55 57-65 67-71 are currently pending in Instant Application.

Response to Arguments***Response: 35 U.S.C. § 101***

2. **Applicants argue primarily:**

Applicants argued that in view of the Bilski decision, claim 27 is patentable because it recites a particular machine having a processor, a memory, at least one microphone, and an output device.

3. **Examiner Response:**

The Office has not yet considered the Bilski case or incorporated it into the MPEP. Accordingly, no comments will be made on the case and its applicability to the Instant Invention until such time.

MPEP 2106 recites, in part:

When nonfunctional descriptive material is recorded on some computer-readable medium, in a computer or on an electromagnetic carrier signal, it is not statutory since no requisite functionality is present to satisfy the practical application requirement. Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory. See *>Diamond v. Diehr*, 450 U.S. *>175, < 185-86, 209 USPQ *>1, < 8 (noting that the claims for an algorithm in Benson were unpatentable as abstract ideas because “[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer.”). Such a result would exalt form over substance. *In re Sarkar*, 588 F.2d 1330, 1333, 200 USPQ 132, 137 (CCPA 1978) (“[E]ach invention must be evaluated as claimed; yet semantogenic considerations preclude a determination based solely on words appearing in the claims. In the final analysis under § 101, the claimed invention, as a whole, must be evaluated for what it is.”) (quoted with approval in *Abele*, 684 F.2d at 907, 214 USPQ at 687). See also *In re Johnson*, 589 F.2d 1070, 1077, 200 USPQ 199, 206 (CCPA 1978) (“form of the claim is often an exercise in drafting”). Thus, nonstatutory music is not a computer component, and it does not become statutory by merely recording it on a compact disk. Protection for this type of work is provided under the copyright law. (emphasis added)

The claimed invention, as a whole, is drawn to minimizing effects of outlier data on data. The formula to perform the mathematical calculation is nonfunctional descriptive matter and therefore is not statutory, regardless of whether it is recorded by a computer medium or on in a computer, as it fails to satisfy the practical application requirement.

MPEP 2106 also recites, in part:

Even when a claim applies a mathematical formula, for example, as part of a seemingly patentable process, USPTO personnel must ensure that it does not in reality “seek[] patent protection for that formula in the abstract.” *Diehr*, 450 U.S. at 191, 209 USPQ at 10. “Phenomena of nature, though just discovered, mental processes, abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work.” *Benson*, 409 U.S. at 67, 175 USPQ at 675. One may not patent a process that comprises every “substantial practical application” of an abstract idea, because such a patent “in practical effect would be a patent on the [abstract idea] itself.” *Benson*, 409 U.S. at 71-72, 175 USPQ at 676; cf. *Diehr*, 450 U.S. at 187, 209 USPQ at 8 (stressing that the patent applicants in that case did “not seek to pre-empt the use of [an] equation,” but instead sought only to “foreclose from others the use of that equation in conjunction with all of

the other steps in their claimed process").

From the Specification and the claimed invention, as a whole, one sees that the Application seeks to patent protection for the mathematical construct. Specifically, there is merely a computation of approximations, application of formulas, and computation of additional mathematical formulas, which is not permissible.

MPEP 2106.01.I reads as follows:

Since a computer program is merely a set of instructions capable of being executed by a computer, the computer program itself is not a process and USPTO personnel should treat a claim for a computer program, without the computer-readable medium needed to realize the computer program's functionality, as nonstatutory functional descriptive material.

When a computer program is claimed in a process where the **computer is executing** the computer program's instructions, USPTO personnel should treat the claim as a process claim. **

When a computer program is recited **in conjunction with a physical structure**, such as a computer memory, USPTO personnel should treat the claim as a product claim. ** (emphasis added)

Furthermore, although claim 14 and 27 recite a processor, they are being interpreted as process claims, because the claims are drawn to computer code / formula being executed by the processor. The practical application requirement has not been met by the claims.

The remaining claims are rejected for similar reasons.

Accordingly, the rejection is maintained.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

MPEP 2106.01.I reads as follows:

Since a computer program is merely a set of instructions capable of being executed by a computer, the computer program itself is not a process and USPTO personnel should treat a claim for a computer program, without the computer-readable medium needed to realize the computer program's functionality, as nonstatutory functional descriptive material. When a computer program is claimed in a process where the **computer is executing** the computer program's instructions, USPTO personnel should treat the claim as a process claim. **

When a computer program is recited **in conjunction with a physical structure**, such as a computer memory, USPTO personnel should treat the claim as a product claim. **

MPEP 2106.01 reads as follows:

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).)

"Nonfunctional descriptive material" includes but is not limited to music, literary works, and a compilation or mere arrangement of data. **Both types of "descriptive material" are nonstatutory when claimed as descriptive material per se**, 33 F.3d at 1360, 31 USPQ2d at 1759.

Art Unit: 2128

4. Claims 1-6 8-12 14-19 21-31 33-44 46-55 57-65 67-71 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claimed invention, as a whole, is drawn to minimizing effects of outlier data on data. The formula to perform the mathematical calculation is nonfunctional descriptive matter and therefore is not statutory, regardless of whether it is recorded by a computer medium or on in a computer, as it fails to satisfy the practical application requirement. From the Specification and the claimed invention, as a whole, one sees that the Application seeks to patent protection for the mathematical construct, which is not permissible. Specifically, there is merely a computation of approximations, application of formulas, and computation of additional mathematical formulas.

Furthermore, although claim 14 and 27 recite a processor, they are being interpreted as process claims, because the claims are drawn to computer code / formula being executed by the processor. The practical application requirement has not been met by the claims.

The other independent and their respective dependent claims are similarly rejected.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-6 8-12 14-19 21-26, and 37 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the **enablement requirement**. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The following In re Wands factors were used in the determination of this rejection:

(A) The breadth of the claims -

The claimed invention, as a whole, is drawn to a mathematical construct and

manipulation of abstract ideas. This is broad enough to be preemptive of all applications of the mathematical formula.

(B) The nature of the invention -Mathematical formula.

(C) The state of the prior art - unknown.

(D) The level of one of ordinary skill - At minimum a mathematic-related student

(E) The level of predictability in the art - unknown

(F) The amount of direction provided by the inventor - no direction is provided

(G) The existence of working examples - there are no working examples provided in a practical application

(H) The quantity of experimentation needed to make or use the invention based on the content of the disclosure - undue experimentation is required to make and use the invention

5.1 The claims above are rejected for being not enabled. Specifically the Specification does not properly disclose how the number of speakers is determined. The only mention of the number of speakers as an output is in **(PGPUB para 67)**, which recites: "Exemplary data may include without limitation auditory speech data from an unknown number of speakers, where determining the correct number of speakers is part of the modeling process []." (emphasis added). There is no other description of how the modeling process is applied to determine the correct number of speakers.

Allowable Subject Matter

6. Claim 1-6, 8-12, 14-19, 21-31, 33-44, 46-55, 57-65, and 67-71 would be allowable if rewritten or amended to overcome the rejection(s), set forth in this Office action. The reasons for indicating allowable matter are clearly made of record in the Applicants' Remarks **(dated 7/2/08)** pages 25-26 with emphasis on page 26 first two (2) full paragraphs.

Support for Amendments and Newly Added Claims

Applicants are respectfully requested, in the event of an amendment to claims or submission of new

Art Unit: 2128

claims, that such claims and their limitations be directly mapped to the specification, which provides support for the subject matter. This will assist in expediting compact prosecution. MPEP 714.02 recites: "Applicant should also specifically point out the support for any amendments made to the disclosure. See MPEP § 2163.06. An amendment which does not comply with the provisions of 37 CFR 1.121(b), (c), (d), and (h) may be held not fully responsive. See MPEP § 714."

Amendments not pointing to specific support in the disclosure may be deemed as not complying with provisions of 37 C.F.R.

1.131(b), (c), (d), and (h) and therefore held not fully responsive. Generic statements such as "Applicants believe no new matter has been introduced" may be deemed insufficient.

Support for Amendments and Newly Added Claims

Applicants are respectfully requested, in the event of an amendment to claims or submission of new claims, that such claims and their limitations be directly mapped to the specification, which provides support for the subject matter. This will assist in expediting compact prosecution. MPEP 714.02 recites: "Applicant should also specifically point out the support for any amendments made to the disclosure. See MPEP § 2163.06. An amendment which does not comply with the provisions of 37 CFR 1.121(b), (c), (d), and (h) may be held not fully responsive. See MPEP § 714."

Amendments not pointing to specific support in the disclosure may be deemed as not complying with provisions of 37 C.F.R.

1.131(b), (c), (d), and (h) and therefore held not fully responsive. Generic statements such as "Applicants believe no new matter has been introduced" may be deemed insufficient.

Requests for Interview

7. In accordance with 37 CFR 1.133(a)(3), requests for interview must be made in advance.

Interview requests are to be made by telephone (571-272-8634) call or FAX (571-273-8634).

Applicants must provide a detailed agenda as to what will be discussed (generic statement such as "discuss §102 rejection" or "discuss rejections of claims 1-3" may be denied interview).

The detail agenda along with any proposed amendments is to be written on a PTOL-413A or a custom form and should be faxed (or emailed, subject to MPEP 713.01.I / MPEP 502.03) to the Examiner at least 3 days prior to the scheduled interview.

Art Unit: 2128

8. Interview requests submitted within amendments may be denied because the Examiner was not notified, in advance, of the Applicant Initiated Interview Request and due to time constraints may not be able to review the interview request to prior to the mailing of the next Office Action.

Conclusion

9. All claims are rejected.

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Silver whose telephone number is (571) 272-8634. The examiner can normally be reached on Monday thru Friday, 10am to 6:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached on 571-272-2279. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Kamini S Shah/

Supervisory Patent Examiner, Art Unit 2128

/ DS / _____

Art Unit: 2128

David Silver, Patent Examiner

Art Unit 2128